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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/817,689	06/13/1997	GUY NATHAN	871-31	8565
23117	7590	09/09/2005	EXAMINER	
NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203			KOENIG, ANDREW Y	
			ART UNIT	PAPER NUMBER
			2611	

DATE MAILED: 09/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

08/817,689

Applicant(s)

NATHAN ET AL.

Examiner

Andrew Y. Koenig

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 16 June 2005 have been fully considered but they are not persuasive.

The applicant argues that the microprocessor, of the instant invention, can identify which buffer contains data in a real-time audiovisual reproduction system. Specifically, that the buffer states of Ostrover represent a different meaning than that of the claimed invention, in that buffer full state of Ostrover means that at least one buffer is full of data (contrary to the instant invention which means that the respective buffer contains data). The examiner recognizes this difference, however the claims do not recite the limitation as expressed in the remarks. Specifically, the claims recite "said scheduling module performing a test to determine the state of status buffer means provided for the temporary buffers that store audio data if status buffer means provided for the temporary buffers that store video are in an inactive state." The scope of the term "inactive" encompasses some or all of the buffer being in an inactive state, thus the buffer could be half-full, such as taught by Ostrover (col. 7, ll. 39-62). Further, Ostrover teaches placing data in the buffers, when the buffers are empty and a buffer full state when any of the buffers are full (col. 7, ll. 27-28, col. 7, ll. 42-47), wherein any state other than a full state is inactive in that some of the buffer is empty (e.g. inactive). Ostrover recognizes that if the buffers are being depleted of data too rapidly, that the rate at which the buffers fill is increased (col. 7, ll. 59-62). Ostrover teaches the microprocessor disk drive controller, which reads on a scheduling module by changing

the data rate of the data for the operating system (col. 7, ll. 54-62), which feeds data into the video and audio buffers to avoid lack of data during audio and video reproduction.

Further, the applicant argues that the system of Ostrover does not contemplate running the audio and video means in real-time. The examiner disagrees; the system of Ostrover clearly performs the audio and video in real-time in order to decode the data without having buffer overrun or under-run errors, as discussed above. Further, the system employs a separate audio and video decoder functionality run in parallel in order to accommodate this end.

The applicant further argues that Ostrover does not disclose a scheduling module to manage the operating system tasks. The examiner notes that a scheduling module is inherent to an operating system in order to permit the system to properly enable tasks to run without absorbing all the processor cycles thereby enabling a system to perform the system to run with multiple threads, priorities, and processes.

The applicant argues that Fujinami teaches a higher priority to video and a lower one to an audio signal, but is not an audiovisual reproduction system. The examiner disagrees; Fujinami is clearly an element of an audiovisual reproduction system in that Fujinami is directed to separating audio and video data for use by an audio and video decoder (such as shown in fig. 1(A) and fig. 1(B)). The applicant additionally argues that the prior art is not in the same U.S. class and thus does not pertain to the specific domain of Fujinami. The examiner disagrees; demultiplexers are well known in the use

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of audiovisual reproduction devices; the examiner notes that Ostrover, already of record, clearly shows the use of a demultiplexer (see fig. 2, label 63).

The applicant argues that the claimed solution of specific buffers is not inherent in multitasking operating systems. The examiner disagrees; in that in buffers for a s

For the above reason, the rejection is proper.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 11-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,355,302 to Martin et al. in view of U.S. Patent 5,469,370 to Ostrover et al. U.S. Patent 5,689,641 to Ludwig et al., and U.S. Patent 5,521,922 to Fujinami et al.

Regarding claim 11, Martin teaches a payment-based jukebox, containing a microprocessor as 121a in figure 1 (col. 5, ll. 42-44). As shown in figure 1, jukebox #1 has a microprocessor (121a) that is linked to the coin/bill detector (126), which reads on the claimed payment device, and storage device (93) for storing audio and visual information (col. 5, ll. 8-15), a display (125), a digital audio reproduction device (126). Martin teaches a jukebox with a display; however, Martin fails to disclose a digital display. Official Notice is taken that a digital display is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention

was made to modify Martin by using a digital display in order to enhance the visual quality of the images.

Martin is silent on the type of operating system (OS) used in the jukebox. Ludwig teaches a multitasking operating system (col. 4, ll. 55-58, col. 6, ll. 15-22, col. 18, ll. 44-52). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Martin by incorporating a multitasking operating system as taught by Ludwig in order to manage multiple tasks thereby maximizing the processing power of the microprocessor.

Martin teaches storing tools and services integrated into the storage means for operating the jukebox in the read only memory (ROM) of the jukebox (121B; col. 5, ll. 26-37), but is silent on storing software on a storage medium. Official Notice is taken that storing software on a storage medium such as a hard disk or CD-ROM is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Martin by storing the software in a storage medium such as a hard disk or CD-ROM as taught in order to consolidate the storage of the information at a central location thereby enabling updates to the software.

Furthermore, video processing takes substantially more processing power than audio processing. Martin and Ostrover are silent on a display task having a higher priority than an audio signal. Fujinami teaches that video decoding has a higher priority over an audio decoding (col. 9, ll. 57-61, col. 10, ll. 14-21). Therefore, it would have been obvious to one of ordinary skill in the art to assign a higher priority to a video

signal and a lower one to an audio signal as taught by Fujinami in order to efficiently process a video signal (which has more data than an audio signal).

Martin fails to explicitly disclose using buffers. However, buffers are an inherent characteristic to multi-tasking operating systems in order to process information using different threads and processes. Consequently, the combination of Martin and Ludwig teaches the use of buffers. Martin is silent on a scheduling module for reading status values and alternately feed the video and audio buffers with data, wherein the scheduling module performs a test to determine the state of the buffer if the buffers are inactive. Additionally, Martin is silent on an audio buffer having a size sufficient for storing an amount of data to avoid any lack of data during audio operations.

Ostrover teaches a microprocessor disk drive controller (fig. 2, label 27), demultiplexer (fig. 2, label 63), and audio and video buffers (fig. 2, labels 53 and 55, respectively). Further, Ostrover teaches placing data in the buffers, when the buffers are empty and a buffer full state when any of the buffers are full (col. 7, ll. 27-28, col. 7, ll. 42-47), wherein any state other than a full state is inactive in that some of the buffer is empty (e.g. inactive). Ostrover recognizes that if the buffers are being depleted of data too rapidly, that the rate at which the buffers fill is increased (col. 7, ll. 59-62). Ostrover teaches the microprocessor disk drive controller, which reads on a scheduling module by changing the data rate of the data for the operating system (col. 7, ll. 54-62), which feeds data into the video and audio buffers to avoid lack of data during audio and video reproduction. Consequently, Ostrover teaches a scheduling module for reading status values and alternately feed the video and audio buffers with data, wherein the

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scheduling module performs a test to determine the state of the buffer if the buffers are inactive. Ostrover teaches an audio buffer having a size sufficient for storing an amount of data to avoid any lack of data during audio operations.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Martin by using a scheduler and buffering data as taught by Ostrover in order to efficiently fill the buffers with data thereby enabling the display of audio and video information without buffer under run and overrun problems.

However, Martin and Ostrover are silent on transferring the information to the other by means of the operating system. Ludwig teaches buffering of the video is provided by the operating system, which as described above is a multitasking operating system (col. 32, ll. 27-36). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Martin and Ostrover by transferring information to buffers by the operating system as taught by Ludwig in order to guarantee a continuous flow of audio/video data (Ludwig: col. 32, ll. 35-36).

Regarding claim 12, Martin teaches a modem (label 19 in figure 1); this is connected to a transmission link (col. 3, ll. 26-32).

Regarding claim 13, Martin fails to teach a priority resolution module or a scheduling module. However, Official Notice is taken that the functions of a priority resolution module and a scheduling module are well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Martin by incorporating a priority resolution module in the multi-task environment in order to properly assign the correct priorities to the task thus providing a

more robust design. As for the scheduling module, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Martin by using a scheduling module in the multi-task environment in order to maximize the available resources for use by other tasks.

Regarding claim 14, Martin fails to teach temporary buffers. Official Notice is taken that temporary buffers are well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Martin by using temporary buffers in order to communicate between task levels and improve robustness.

Regarding claim 15, Martin fails to teach a "manager." Official Notice is taken that a manager is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Martin by including a manager in order to handle any non-real time operations and maintain the system. Managing takes substantially less processing power than audio and video; therefore, it would have been obvious to assign the management module a lower priority.

4. Claims 16-17 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,355,302 to Martin et al., U.S. Patent 5,469,370 to Ostrover et al., U.S. Patent 5,689,641 to Ludwig et al., and U.S. Patent 5,521,922 to Fujinami et al. in view of U.S. Patent 5,481,509 to Knowles.

Regarding claim 16, Martin teaches a mass storage device for storing audiovisual information (col. 5, ll. 26-41), however Martin fails to show a hard drive. Knowles teaches using a hard drive to store audio and video information. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Martin by using a hard drive in order to easily swap the old hard drive with a new hard drive (col. 3, ll. 37-43). Official Notice is taken that storing an operating system on a hard drive is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Martin by storing the operating system on the hard drive in order to obviating the need for a read-only-memory (ROM). Martin is silent on a status file including information relating to the insertion of money, addition of a selection to the queue, end of a selection and data allowing the system to return to a specified location in case of an interruption by a fault. However, Official Notice is taken that storing status information in hard disk is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Martin by storing information on a hard disk in order to provide to access information upon startup and put the player in a known state.

Regarding claim 17, Martin teaches a display (label 125, figure 1); however, Martin fails to teach a touch screen. Knowles teaches a touch screen and a video display (label 18, figure 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Martin by adding a touch screen and a video display as taught by Knowles in order to present the user with a

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menu including directions for operating the jukebox system (col. 4, ll. 7-11). Martin fails to show a control panel. Knowles teaches a control panel with at least control panels, see figure 5. Martin fails to show the first title selection panel. In figure 5, Knowles teaches the "touch the title of your choice" panel which reads on the first title selection panel to help customers find and select a desired title. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Martin by incorporating instructions in order to further facilitate the user in selecting music. Martin fails to explicitly show a second management control panel. Clearly the function of the second management control panel is taught by Martin; the jukebox as disclosed would have a volume control. Martin teaches the use of a database in the central management system (label 11, figure 1), but fails to teach a database at the user location. Knowles teaches the use of a database in a jukebox (col. 7, ll. 16-22); scanning is an inherent characteristic of databases. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Martin by using a database as taught by Knowles in order to scan for songs to simplify the searching process, thereby aiding the user in finding music. Martin fails to teach a fourth statistics panel, for statistical estimation. However, Knowles teaches storing statistical information regarding the played tracks (col. 7, ll. 16-22). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Martin by gathering statistical information of the songs as taught by Knowles in order to pay royalties and obtain additional operator information.

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5. Claims 18-19 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,355,302 to Martin et al., U.S. Patent 5,469,370 to Ostrover et al., U.S. Patent 5,689,641 to Ludwig et al., and U.S. Patent 5,521,922 to Fujinami et al. in view of U.S. Patent 5,282,028 to Johnson et al.

Regarding claim 18, Martin fails to teach a remote control. Johnson teaches a remote control with a volume control (label 200, figure 6). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Martin by using a remote control with volume control in order to adjust the volume of the jukebox thereby giving more audio control to the user.

Regarding claim 19, Martin fails to teach storing "system operating parameters in a file," which is unable to be read by the user. Official Notice is taken that hiding system files is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Martin by hiding system files in order to create a robust and secure system from abuse.

6. Claim 20 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,355,302 to Martin et al., U.S. Patent 5,469,370 to Ostrover et al., U.S. Patent 5,689,641 to Ludwig et al., U.S. Patent 5,521,922 to Fujinami et al., and U.S. Patent 5,282,028 to Johnson et al in view of U.S. Patent 5,481,509 to Knowles.

Regarding claim 20, Martin fails to teach fixing a price for a title. Official Notice that fixing a price for a title is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify

Martin by charging a user for playing a song in order to maximize revenue. Martin fails to teach an inactivity delay before starting a visual promotion and an auxiliary source. Knowles teaches playing a commercial during a delay (label 182, figure 4C), which reads on a visual promotion and an auxiliary source (col. 7, ll. 34-57). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Martin by playing a commercial as taught by Knowles in order to keep the jukebox active.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 5,487,167 to Dinallo et al. teach a multi-level priority support for data stream handling.

U.S. Patent 5,471,576 to Yee teaches synchronization of audio and video using threads.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Y. Koenig whose telephone number is (571) 272-7296. The examiner can normally be reached on M-Th (7:30 - 6:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Grant can be reached on (571) 272-7294. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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